

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM STATEMENT OF INVESTMENT POLICY

FOR RISK MANAGEMENT PROGRAM

~~October 12, 2007~~ November 13, 2007

This Policy is effective immediately upon adoption and supersedes all previous risk management policies.

I. PURPOSE

The CalPERS Total Fund Statement of Investment Policy, adopted by the CalPERS Investment Committee ("Committee"), sets forth CalPERS' overarching investment purposes and objectives with respect to all its investment programs.

This document sets forth the investment ~~policy~~ Policy, guidelines and procedures ("the Policy") for determining the strategic and tactical management of investment risk for the California Public Employees' Retirement System ("the System") through the Risk Management Program ("the Program") for the Risk Management Program ("Program"). The Policy allows for sufficient flexibility to capture investment opportunities as they may occur, yet establishes reasonable risk parameters to ensure prudence and care in the management of the System's assets. The Policy is designed to ensure that an effective risk management system is in place to monitor the risk levels of the CalPERS investment portfolios.

II. STRATEGIC OBJECTIVE

The Program shall be managed to accomplish the following:

- A. Enhance the effectiveness of the CalPERS investment portfolio to provide CalPERS with a reasonable balance between risk and return. Achieve the highest rate of total return reasonably possible within prudent levels of risk and liquidity;
- B. Monitor the risk levels of the CalPERS investment portfolios, and ensure that CalPERS understands and is properly rewarded for the risks it assumes. Maintain sufficient diversification to avoid large losses, minimize unintended risk and preserve capital;
- C. Provide an integrated process for overall risk management on both a consolidated and disaggregated basis.

- ~~D. Monitor fund diversification and investment risks that arise from the implementation of the System's Asset Allocation Policy to identify, minimize or eliminate uncompensated risks.~~
- ~~E. Provide an effective tool to aid the investment decision making process by providing value added decision making support.~~
- ~~F. Enable the maintenance of a positive working relationship with the investment operation.~~
- ~~G. Promote a risk management culture within CalPERS through education and example.~~
- ~~H. Enable the System's investment program to achieve one of its primary strategic objectives: the highest return possible within *prudent* levels of risk and liquidity.~~

III. RESPONSIBILITIES AND DELEGATIONS

- ~~A. The CalPERS Risk Management Program's responsibility is to facilitate the management of the is intended to manage CalPERS' economic and investment risks of the System. It is not intended to manage other risks that the System CalPERS faces, including but not limited to, Operational operational Risks risks, Compliance compliance Risks risks and Legal legal Risks, which These risks are managed by other units within CalPERS covered by their own sets of policies and procedures, nor is the program intended to uncover fraud, and are addressed within their separate policies.~~
- ~~B. The System's Investment Committee ("the Investment Committee") is responsible for approving and amending this Policy. The Investment Committee delegates the responsibility for administering the Risk Management Program to the System's Investment Staff.~~
- ~~GB. The System's Investment Staff ("the Staff"), identified herein as the Asset Allocation and Risk Management Unit, has CalPERS Investment Staff ("Staff") is responsible ilities that include, but are not limited, to for the following:~~
 - ~~1. The development and modifications of, and recommendations regarding this Policy to the Investment Committee.~~
 - ~~2. The implementation and adherence to this Policy.~~
 - ~~3.1. The selection, development, maintenance and enhancement of Selecting, maintaining and enhancing the risk management tools~~

used by the Program to provide analyses that inform and support the investment actions of the entire CalPERS Investment Staff.

~~4.2. The r~~Reporting on the System's CalPERS' investment risks and associated returns to the Investment Committee and Investment Staff as described in Section V. below.

~~5. The education on risk management concepts, and the uses of and benefits from risk management in the investment process to ensure a risk-aware culture at CalPERS.~~

~~6. The supply of forward looking risk management analyses to be used to manage the CalPERS investment program.~~

- D. The Risk Management Consultant and General Pension Consultant are responsible for advising ~~staff~~ Staff on risk management efforts and reporting to the ~~Investment Committee~~ as appropriate.

IV. PERFORMANCE OBJECTIVE AND BENCHMARK

The Program shall be benchmarked against the risk management practices of other major pension fund peers to remain in the forefront of ~~and to achieve the "best practices"~~ of pension fund risk management.

V. IMPLEMENTATION, MONITORING, AND REPORTING INVESTMENT APPROACHES AND PARAMETERS

RISK REPORTS

- A. Staff shall provide monthly reporting on the investment risks of the CalPERS portfolio. These reports are to provide the expected volatility ~~or risk~~ and Value at Risk ("VAR") of the CalPERS invested and policy portfolios. These analyses ~~are to show risks for the entire investment program, for each separate asset class, for groups of accounts and for individual accounts and managers.~~ The analyses shall provide ex post results and ex ante forecasts of absolute levels of risk and risks relative to benchmarks at all levels of the investment program.

~~The reporting package~~Reports shall include, but ~~is~~ are not limited to:

- ~~The System's CalPERS'~~ current asset allocation relative to the System's policy asset allocation to be used by Senior Investment Staff in their monthly Asset Allocation Meeting.
- Providing forward looking risk analyses of both existing and proposed investment programs.

- 23. Total Portfolio reports showing the current level of risk being taken with a comparison of the history of the risks that have been taken.
- 34. A Concentration report ~~to highlighting~~ highlighting the 20 companies in which CalPERS has the greatest investment concentration ~~of investment~~ across asset classes and portfolios.
- 45. External Manager Monitoring reports for the purpose of monitoring ~~the System's~~ CalPERS' external managers.
- 6. Reports separating diversifiable risk from non-diversifiable risk.
- ~~57.~~ Customized reports and risk analyses for the asset class investment units as needed.
- ~~68.~~ Reports ~~to evaluate~~ evaluating the accuracy of the risk management system forecasts, ~~and the efficiency of the investment risks taken by the System.~~
- 9. Reports showing both risk and returns to aid in evaluating the value added of the investment programs.

IMPLEMENTATION AND MONITORING

- B. The Risk Management Program shall be continuously reviewed by Staff to enhance the timeliness, accuracy and usability of ~~the Program's~~ CalPERS' risk management tools ~~through improvements in systemization and automation.~~
- C. The Chief Investment Officer, Senior Investment Officers and their professional investment staffs shall incorporate ~~the ex ante and ex post information, analyses and results of~~ the relevant information generated by the Risk Management Program ~~into the~~ as part of their investment decision making processes.

VI. GLOSSARY OF TERMS

~~Definitions for k~~Key words used in this policy are defined ~~located in the Miscellaneous Glossary of Terms which is included in~~ CalPERS' ~~the System's~~ Master Glossary of Terms.

Approved by the Policy Subcommittee: June 11, 2004
 Adopted by the Investment Committee: September 13, 2004
 Revised by the Policy Subcommittee: December 10, 2004
 Approved by the Investment Committee: February 14, 2005
 Revised by the Policy Subcommittee: October 12, 2007

Approved by the Investment Committee: November 13, 2007

Absolute Levels of Risk

Expected or historical annualized standard deviation of total return to a portfolio.

Current Asset Allocation

The actual asset allocation weights of the invested CalPERS' portfolio.

Diversifiable Risk (Unsystematic Risk)

The change in price of an individual security due to circumstances specific to that security, as opposed to circumstances shared by the general market. This risk can be largely eliminated in a well-diversified portfolio.

Ex Ante Risk

Forecasted risk; expected levels of volatility.

Ex Post Risk

Realized risk; measured level of actual volatility.

Non-Diversifiable Risk (Systematic Risk)

The change in price of an individual security due to circumstances shared by the general market. This risk will predominate in a well diversified portfolio.

Policy Asset Allocation

CalPERS' strategic asset allocation target weights.

Risk Management

The process of defining, identifying, measuring, and managing risk.

Risk Management Tools

Systems, models, and analyses of portfolios that provide forecasts of portfolio risks and returns and correlation of risks and returns across investments and support the portfolio management process.

Risk Relative to Benchmark

Expected or historical annualized standard deviation of the differential returns between a portfolio and its benchmark. Also referred to as tracking error or active risk.

Value Added

The difference in realized returns between a portfolio and its benchmark.

Value at Risk (VaR)

The worst-case loss that might be expected from holding a portfolio over a given

time period with a specified probability. CalPERS uses a 95th percentile, one year horizon definition for VaR. (e.g., a \$1 billion VaR would have an expectation that at the end of one year, there is a 5 percent probability that one would have lost \$1 billion or more.)

Volatility

Expected or historical annualized standard deviation of returns. Returns can be total returns or the differential returns between a portfolio and its benchmark.